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MERCHANDISE DISPLAY HOOK

BACKGROUND OF THE INVENTION

[0001] Embodiments of the present invention relate generally to a merchandise display hook for items of merchandise.

[0002] It is common practice for retailers to display items of merchandise on a security device, such as a display hook or a display fixture. The security device displays an item of merchandise so that a potential purchaser may examine the item when deciding whether to purchase the item. The small size and relative expense of the item, however, makes the item an attractive target for shoplifters. A shoplifter may attempt to detach the item from the security device, or alternatively, may attempt to remove the security device from the display area along with the merchandise.

DETAILED DESCRIPTION OF THE INVENTION

[0003] Embodiments of the present invention will now be described more fully hereinafter with reference to the accompanying drawings, in which exemplary embodiments of the invention are shown. This invention may, however, be embodied in many different forms and should not be construed as limited to the embodiments set forth herein. Rather, the exemplary embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art.

[0004] Referring now to the accompanying drawing figures, one or more embodiments of a display hook 10 are shown. The display hook 10 may be employed to display one or more items of merchandise “M” within a display area of a retail store. By way of example, and not by limitation, the display hook 10 may be a merchandise display hook for displaying relatively, small, expensive consumer products, for example compact discs (CDs), digital video discs (DVDs), battery packs, electronic devices, etc., on a display support 14. The display support 14 could be any suitable support, such as pegboard, wire grid, horizontal bar rack, slatwall (also known as slatboard), wall, table, desk, countertop or other secure structure.

[0005] In one embodiment, the display hook 10 includes at least one rod configured to engage and extend outwardly from a display support. For example, the display hook may include a pair of rods 16, 18 as shown in Figure 2. The rods 16, 18 may each be a generally straight member in some embodiments, and in some cases the rods may extend parallel to one another. The rod 16 or 18 may extend substantially perpendicular relative to a display support 14 when supported on the display support. In some embodiments, the display hook 10 is configured to engage and be supported by the display support 14. In other embodiments, the display hook 10 is configured to lock to the display support 14 such that the display hook may not be removed from the display support without the use of a key 20, such as with a mechanical, magnetic, and/or an electronic key. In some embodiments, the rods 16, 18 may be connected together with a connection portion 17 (see, e.g., FIG. 5). Moreover, the rods 16, 18 may have any desired cross section, although in the illustrated embodiments, the rods are circular or cylindrical in cross section.

[0006] In one embodiment, the display hook 10 includes an end assembly 12 that is configured to be secured to at least one rod 16 or 18 (see, e.g., Figures 1-4). It is understood that the end assembly 12 may be coupled to the rod 16 and/or 18 at any desirable location thereon, such as at a free end 24 of one or both of the rods. For instance, the end assembly 12 may be configured to engage the free ends 24 of both rods 16, 18. Furthermore, the end assembly 12 may be configured to engage at least one of the rods 16, 18 in a locked configuration and to disengage at least one of the rods 16, 18 in a locked configuration. For example, Figure 2 shows that the end assembly 12 may be configured to disengage the lower rod 18. The end assembly 12 may be secured to the rod(s) 16 and/or 18 such that items of merchandise M may be not removed without first unlocking the end assembly 12 with a key 20.

[0007] In one embodiment, the end assembly 12 includes a lock mechanism 148 configured to releasably engage a lower rod 118 (see, e.g., Figure 16). The end assembly 12 may include a housing 134 defining a first interior chamber 136 for receiving the upper rod 116 therein. Housing 134 is slidable along rod 116 between an unlocked and a locked position. When housing 134 is slidably moved along rod 116, free end 124 thereof travels within first chamber 136 between a first and a second position. Upper rod 116 may be permanently retained

therein. Lock mechanism 148 includes a compression spring 150 seated in a shuttle assembly 152. Shuttle assembly 152 is complementary shaped and sized for reciprocal travel within second chamber 146 in a direction perpendicular to the longitudinal axis of the upper and lower rods 116, 118. A base portion 154 of shuttle assembly 152 is complementary shaped and sized to be received in notch 128 in lower rod 118 and to be retained between side edges 130, 132 thereof. Shuttle assembly 152 and base portion 154 thereof are biased by spring 150 to extend out of second chamber 146 and into passageway 142. When notch 128 is aligned with second chamber 146, spring 150 forces base portion 154 of shuttle assembly 152 into notch 128 and thereby locks lower rod 118 and end assembly 112 together. Shuttle assembly 152 may be manufactured from a metal that may be influenced by a magnetic force field. Base portion 154, on the other hand, may be manufactured from an insulating material such as plastic to substantially prevent rod 118 from being attracted toward magnet 162. The end assembly 12 may include a housing 134 having a lower portion in which there is defined a specifically shaped recess 156 for receiving a magnetic key therein for moving the shuttle assembly 152 out of engagement with the notch 128 and unlocking the lock mechanism 148. In some embodiments, the end assembly 12 is similar in construction to the end assembly and lock mechanism shown and described in United States Patent No. 7,703,308, entitled DISPLAY HOOK ASSEMBLY HAVING A SECURE FREE END, and United States Patent No. 8,341,987 entitled SECURITY DEVICE FOR ATTACHING A PEG HOOK TO A PEG SUPPORT, the entire disclosures of which are incorporated herein by reference.

[0008] In one embodiment, the key 20 utilizes magnetics to unlock the lock mechanism of the end assembly 12. In other embodiments, the key 20 may utilize wireless signals, such as infrared signals and/or inductive power, to communicate with or otherwise control the end assembly 12. The end assembly 12 may include a port 36, window, or the like for interfacing with the key. In one example, the key 20 may utilize similar features as that disclosed by U.S. Patent No. 7,737,845, entitled PROGRAMMABLE KEY FOR SECURITY SYSTEM FOR PROTECTING MERCHANDISE, the contents of which are hereby incorporated by referenced in its entirety.

[0009] In one embodiment, the display hook 10 may include a base assembly 22 that is

configured to engage the display support 14. The base assembly 22 includes a housing 26 configured to receive at least one of the rods 16, 18. The housing 26 may be configured to move between a locked position adjacent (i.e., in direct contact with or proximate to) the display support 14 to a position spaced away from the display support in an unlocked position. When the housing 26 is in the unlocked position, the display hook 10 may be configured to be removed from the display support 14. In one example, the housing 26 is configured to move independently of the end assembly 12 from the locked position to the unlocked position and/or from the unlocked position to the locked position. In some embodiments, the base assembly 22 does not include a lock mechanism for being locked to the display support 14, and may rather be locked in cooperation of the end assembly 12 being in a locked position.

[0010] In one embodiment, a sleeve 34, shroud, rod, or the like is positioned between the housing 26 and the end assembly 12. In some cases, the sleeve 34 is disposed on the upper rod 16 and is movable therealong. The sleeve 34 may be a larger diameter than the rod 16 so as to encircle or enclose the rod along at least a portion of its length. In some embodiments, the sleeve 34 is fixed to the end assembly 12 and/or the base assembly 22, while in other embodiments the sleeve is not fixed to either the end or base assembly. When the end assembly 12 is moved to an unlocked position, the sleeve 34 may be moved along the rod 16 away from the base assembly 22 (see, e.g., Figure 2). In this way, the base assembly 22 is configured to be removed from the display support 14 as explained in further detail below. The sleeve 34 may be the same cross-sectional shape as the rod 16 in some cases, albeit with a larger cross-sectional dimension (see, e.g., Figures 1-5), while in other embodiments the sleeve may 34', 34'' have a different cross-sectional shape, such as a shape that mates with the shape of the end assembly 12, 12', 12'' and/or base assembly 22, 22', 22'' (see, e.g., Figures 11-13).

[0011] The base assembly 22 may include at least one engagement member 28 or 30 for engaging the display support 14 for supporting the display rod 10 on the display support. In some instances, the at least one engagement member 28 or 30 is configured to engage the display support 14 at a plurality of locations (e.g., 2, 3, or 4 locations). With respect to a display support 14 comprising pegboard, the at least one engagement member 28, 30 may include a plurality of peg holes defined in the pegboard configured to be engaged by the at least one engagement

member 28, 30 (e.g., 4 peg holes as shown in Figure 10). The housing 26 may be configured to cover the at least one engagement member 28, 30 in the locked position (see, e.g., Figure 9). In one embodiment, the base assembly 22 may include a fixed engagement member 28 configured to engage the display support 14. In some embodiments, the fixed engagement member 28 is fixed to one or both the rods 16, 18 and/or the connection portion 17. The fixed engagement member 28 may be configured to engage the display support 14 at one or more locations, such as being inserted within one or more openings defined in the display support. For example, Figures 6-8 and 10 show that the fixed engagement member 28 may engage a pegboard display support 14 at a pair of locations.

[0012] In one embodiment, the base assembly 22 may also include a moveable engagement member 30. The moveable engagement member 30 may be operably engaged with the fixed engagement member 28. The movable engagement member 30 may be configured to engage the display support 14 at one or more locations, such as being inserted within one or more openings defined in the display support (e.g., peg holes defined in pegboard). For example, Figures 7-8 and 10 show that the movable engagement member 30 may engage a pegboard display support 14 at a pair of locations. In some cases, the fixed engagement member 28 and the movable engagement member 30 may include a pair of end members 42 that extend in generally opposite directions when in the locked position (see, e.g., Figure 10). The end members 42 may be at least partially curved, or have a generally L-, V-, U-, or C-shape, in some embodiments. The fixed engagement member 28 may include one or more openings 32 configured to receive a portion of the movable engagement member 30. In this regard, the end members 42 of the movable engagement member 30 may be configured to be received through the openings 32 defined in the fixed engagement member 28. The movable engagement member 30 may be configured to move relative to the fixed engagement member 28 between a locked position (see, e.g., Figure 8) and an unlocked position (see, e.g., Figure 7). The fixed engagement member 28 may include at least one end member 42 proximate the upper rod 16, while at least one opening 32 may be defined proximate to the lower rod 18. In some instances, the movable engagement member 30 may be hingedly coupled to the fixed engagement member 28. In some embodiments, a portion of the end(s) 42 of the movable engagement member 30 may have a

larger cross section than the openings 32 so that the movable engagement member cannot be removed from the fixed engagement member 28. When installed on the display support 14, each of the fixed engagement member 28 and the movable engagement member 30 may be configured to abut a front surface of the display support 14 as well as extend through one or more openings defined in the display support.

[0013] In use according to one embodiment, the end assembly 12 is in an unlocked position prior to engaging the base assembly 22 with the display support 14 (see, e.g., Figures 4-5). The fixed engagement member 28 may then be engaged with the display support 14 (see, e.g., Figure 7). The moveable engagement member 30 may then be moved relative to the fixed engagement member 28 into engagement with the display support 14 while the fixed engagement member is engaged with the display support (see, e.g., Figure 8). The end assembly 12 is then moved to a locked position into engagement with the rod 18. Movement of the end assembly 12 may also move the housing 26 towards the display support 14 (see, e.g., Figure 9). When the end assembly 12 is in a locked position, the housing 26 is unable to be moved away from the display support 14 for removing the display rod 10 from the display support. To remove an item of merchandise from the rod 18, a key 20 is used to unlock the lock mechanism of the end assembly 12 (see, e.g., Figures 2 and 4). In the unlocked position, items of merchandise may be removed from the rod 18, and the base assembly 22 is also able to be removed from the display support if desired. However, when only merchandise is being removed, the base assembly 22 can remain in its existing position adjacent to the display support 14 (see, e.g., Figure 2).

[0014] In another embodiment shown in Figures 11 and 12, a display hook 10' is similar to that described above. In this example, the end assembly 12' and base assembly 22' may be fixed to one another such that when the end assembly is moved to the locked position (see Figure 11) or unlocked position (see Figure 12), the base assembly is also moved to the locked or unlocked position. For instance, the housing 26' of the base assembly 22' may be fixed to the sleeve 34' and the end assembly 12'. Thus, the end assembly 12' and base assembly 22' may be configured to move in cooperation with one another in some embodiments.

[0015] Figures 13-15 show another embodiment of a display hook 10'' similar to the

embodiments described above in Figures 1-10. In this embodiment, the end assembly 12” may include a similar lock mechanism as that shown and described in Figure 16.

[0016] The foregoing has described one or more embodiments of a display hook configured to secure items of merchandise from theft. Embodiments of a display hook have been shown and described herein for purposes of illustration. Those of ordinary skill in the art, however, will readily understand and appreciate that numerous variations and modifications of the invention may be made without departing from the spirit and scope of the invention.

That which is claimed is:

1. A display hook for supporting and displaying items of merchandise on a display support, the display hook comprising:
 - at least one rod for supporting and displaying items of merchandise on a display support;
 - an end assembly configured to at least partially receive the at least one rod and to be releasably secured to the at least one rod; and
 - a base assembly configured to secure the at least one rod to the display support,wherein the end assembly is configured to move between a locked position in which items of merchandise cannot be removed from the at least one rod and an unlocked position in which items of merchandise can be removed from the at least one rod,
 - wherein the end assembly is configured to lock the base assembly to the display support in the locked position.
2. The display hook of Claim 1, wherein the end assembly comprises a lock mechanism for locking the end assembly to the at least one rod.
3. The display hook of Claim 2, wherein the lock mechanism is configured to cooperate with a magnetic key for moving the lock mechanism from a locked position to an unlocked position.
4. The display hook of Claim 1, further comprising a pair of rods, the end assembly configured to releasably engage one of the pair of rods.
5. The display hook of Claim 1, further comprising a sleeve positioned over at least one of the pair rods and between the end assembly and the base assembly, wherein the sleeve is configured to move along the at least one of the pair of rods between the locked and unlocked positions.
6. The display hook of Claim 5, wherein the sleeve is not fixed to the end assembly or the base assembly.
7. The display hook of Claim 1, wherein the base assembly does not include a lock mechanism.
8. The display hook of Claim 1, wherein the base assembly comprises at least one engagement member configured to engage the display support.

9. The display hook of Claim 8, wherein the base assembly comprises a fixed engagement member and a movable engagement member each configured to engage the display support.

10. The display hook of Claim 9, wherein the fixed engagement member is fixed to the at least one rod, and the movable engagement member is configured to move relative to the fixed engagement member into and out of engagement with the display support.

11. The display hook of Claim 8, wherein the base assembly comprises a housing configured to be positioned adjacent to the display support and to cover the at least one engagement member in the locked position.

12. The display hook of Claim 11, wherein the housing is configured to slide along the at least one rod between the locked and unlocked positions.

13. The display hook of Claim 11, wherein the end assembly and the housing are configured to move independently of one another.

14. The display hook of Claim 1, wherein the base assembly is configured to engage the display support at at least four locations.

15. The display hook of Claim 1, wherein the at least one rod is configured to support and display items of merchandise on a display support comprising pegboard.

16. A method for protecting items of merchandise from theft, the method comprising:
securing a base assembly to a display support, the base assembly coupled to at least one rod;

positioning items of merchandise onto the at least one rod; and

releasably locking an end assembly to the at least one rod such that the items of merchandise cannot be removed from the at least one rod and such that the base assembly is locked to the display support.

17. The method of Claim 16, further comprising unlocking the end assembly from the at least one rod with a key for removing one or more items of merchandise.

18. The method of Claim 16, wherein securing the base assembly comprises engaging both a fixed engagement member and a movable engagement member to the display support.

19. The method of Claim 18, wherein securing the base assembly comprises moving the movable engagement member into engagement with the display support while the fixed

engagement member is engaged with the display support.

20. The method of Claim 19, wherein securing the base assembly comprises moving a housing along the at least one rod adjacent to the display support to cover the fixed engagement member and the movable engagement member.

21. The method of Claim 16, wherein securing the base assembly comprises engaging the base assembly to the display support at at least four locations in a display support comprising pegboard.

22. The method of Claim 16, wherein the base assembly is coupled to a pair of rods, and wherein releasably locking comprises releasably locking the end assembly to one of the pair of rods.

ABSTRACT

Display hooks for supporting and displaying items of merchandise from theft are provided. For example, the display hook includes at least one rod for supporting and displaying items of merchandise on a display support and an end assembly configured to at least partially receive the at least one rod and to be releasably secured to the at least one rod. The display hook also includes a base assembly configured to secure the at least one rod to the display support, wherein the end assembly is configured to move between a locked position in which items of merchandise cannot be removed from the at least one rod and an unlocked position in which items of merchandise can be removed from the at least one rod. The end assembly is configured to lock the base assembly to the display support in the locked position.

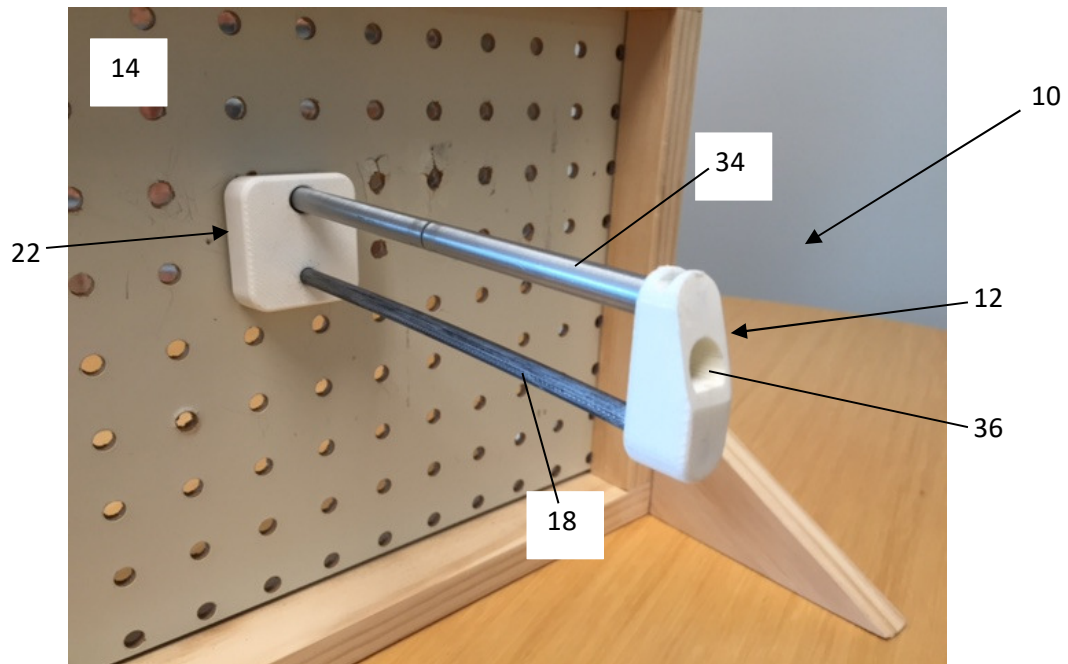


FIGURE 1

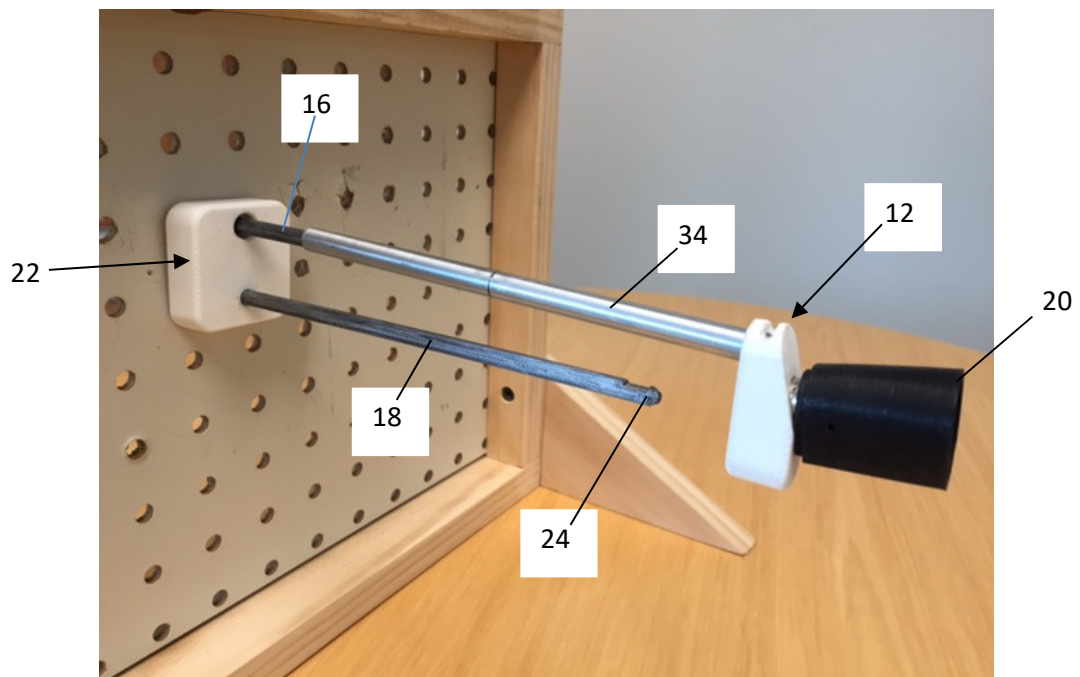
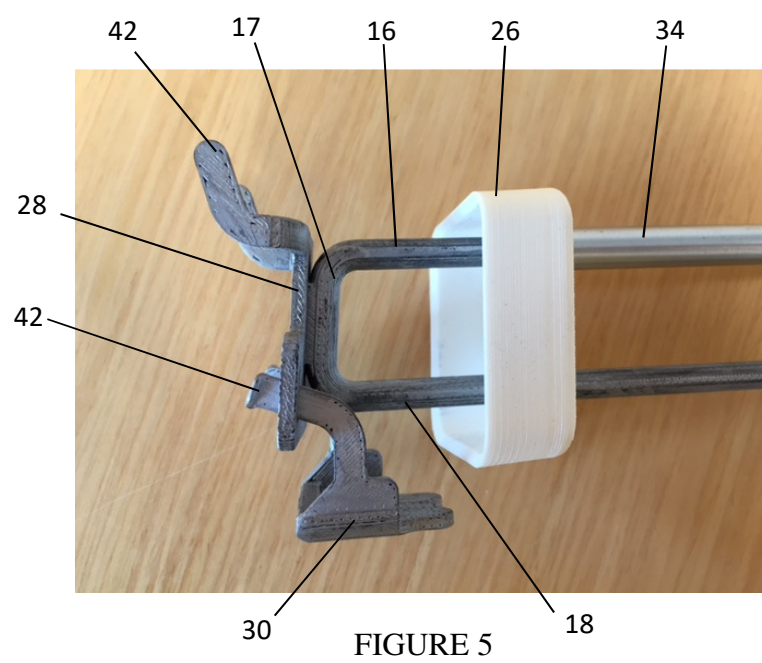
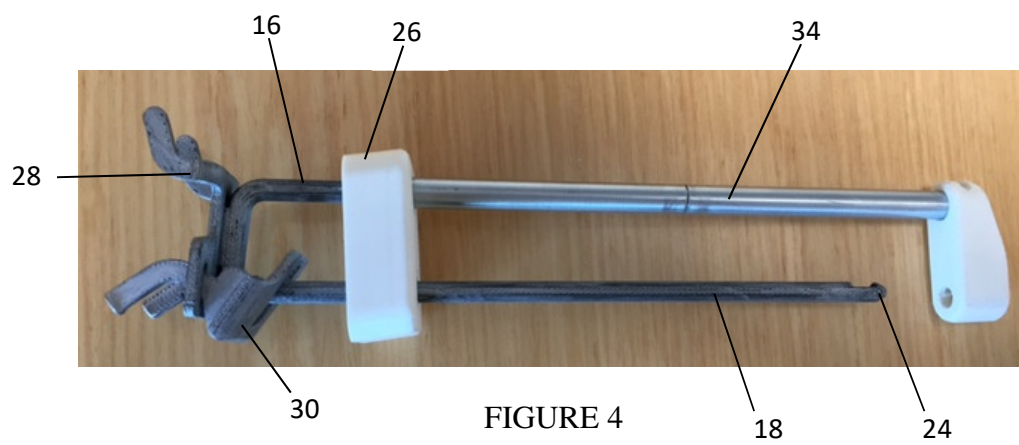
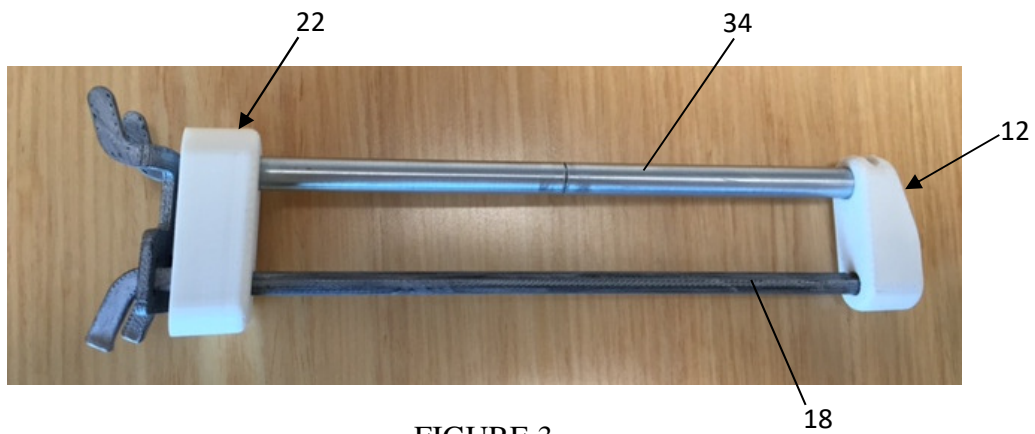


FIGURE 2



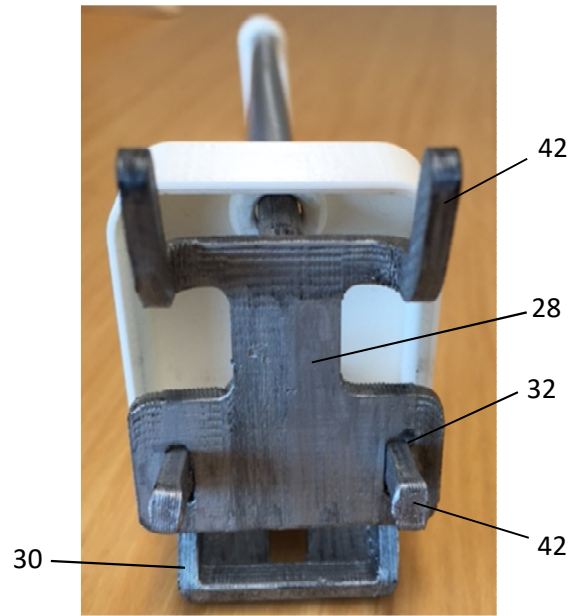


FIGURE 6



FIGURE 7

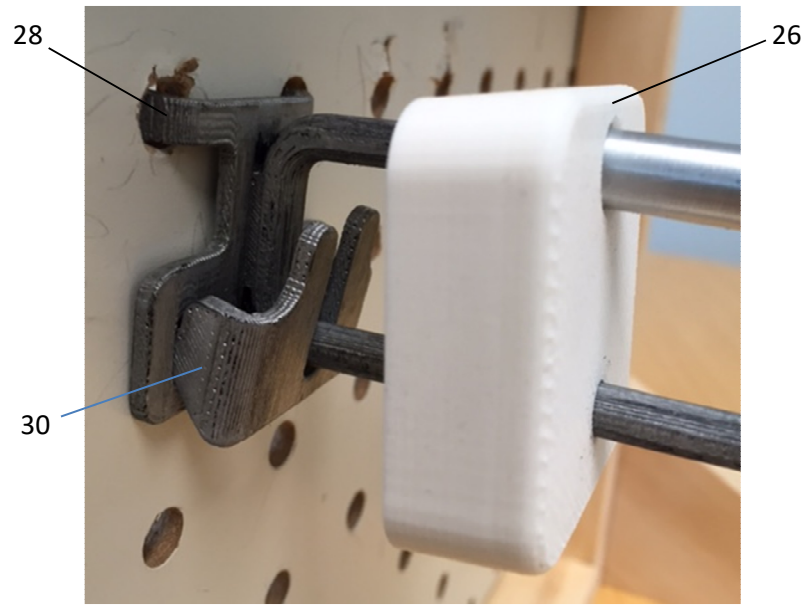


FIGURE 8



FIGURE 9

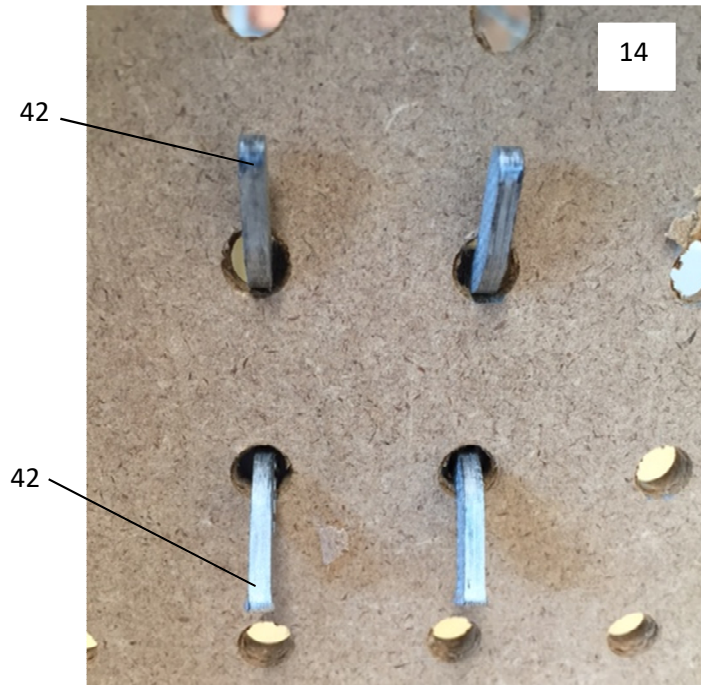


FIGURE 10

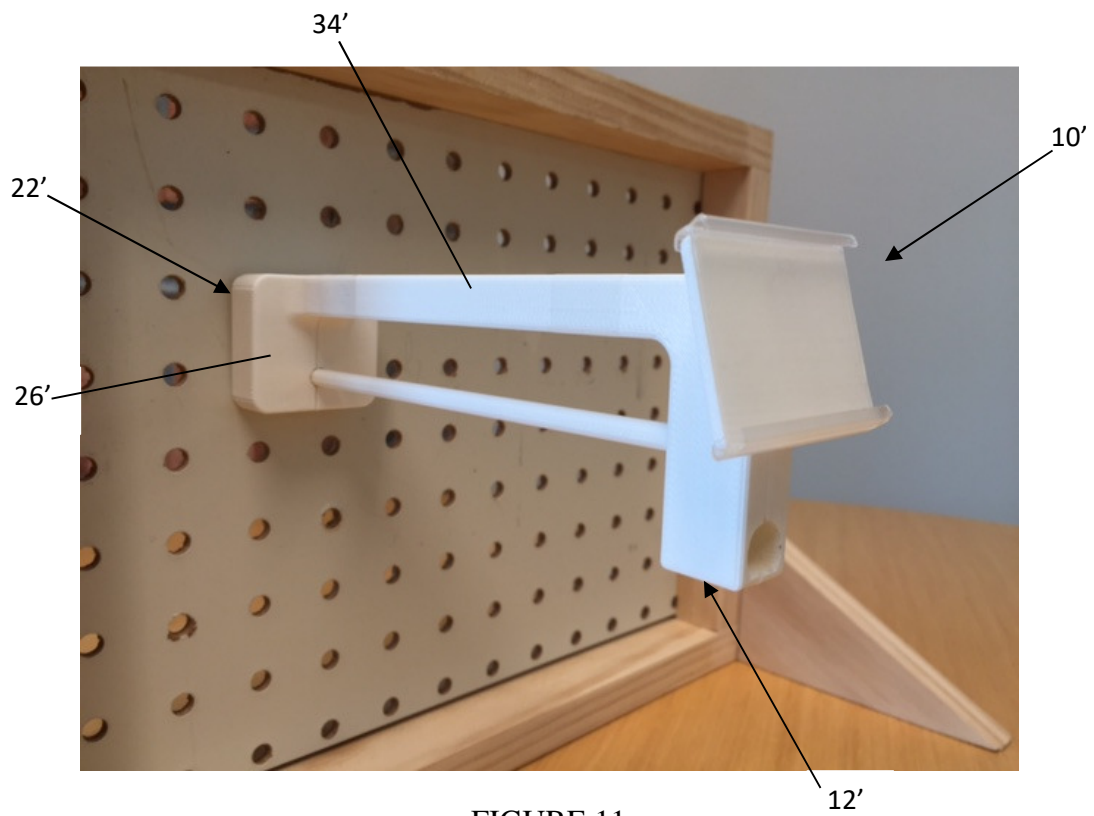


FIGURE 11



FIGURE 12

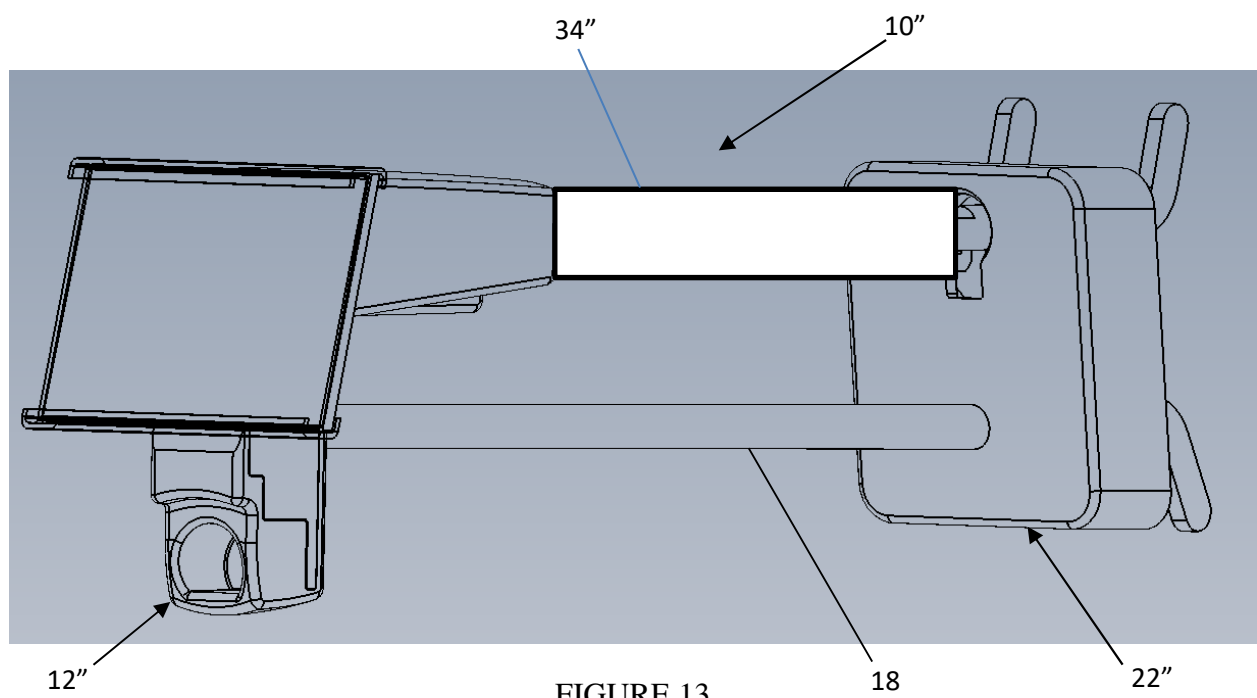


FIGURE 13

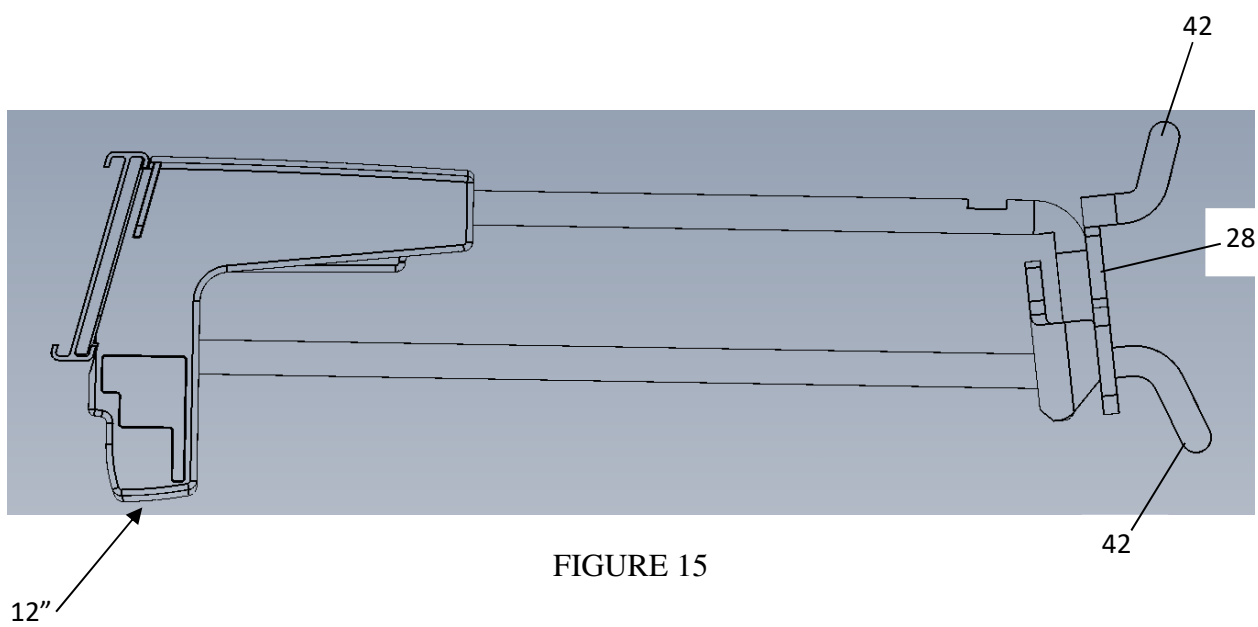
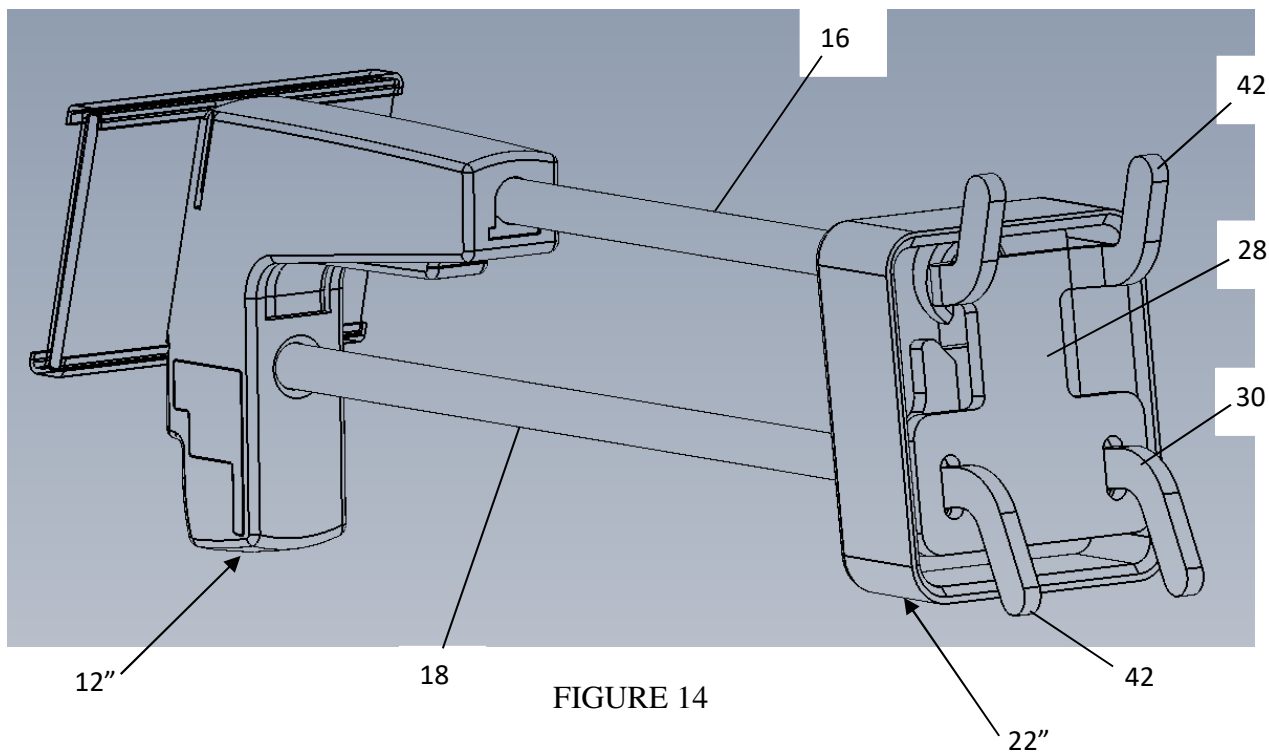




FIGURE 16